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## THE HUMAN ELEMENT IN PRODUCTION

ROBERT G. VALENTINE<sup>1</sup>

I am speaking to you today on your business side.

In spite of certain legitimate suspicion against you on the part of business men, they nevertheless in certain very practical affairs ask your business advice. In spite of certain equally legitimate suspicion of you on class grounds on the part of trade unions, they also nevertheless consult you on their practical business affairs. It is as such business advisers that I ask you to consider a few concrete points which to my mind lie at the base of any analysis of the human factor in production.

But we cannot consider the human factor in production without first fixing our point of view. No analysis of the human factor in production can keep within the limits of production itself. The very existence of the human factor in production raises two questions—Production for whom? and Production for what? If, in answer to the question, Production for whom? we say the so-called private owner of a mill, we take one point of view; if we say owners of a monopoly more or less under public, state, or federal regulation, we take another point of view; if we say a government business, like the post-office, still another. Economic intelligence has advanced far enough in these days to put it beyond question that the strictly private ownership point of view no longer legitimately exists. The most strenuous type of claimant for “running my business to suit myself” no longer even himself

<sup>1</sup> [This address was considered one of the most important utterances at the recent meeting of the National Federation of Settlements.

The speaker was commissioner of Indian affairs under President Roosevelt. He has since then devoted himself to the profession of industrial counselor, and has already made for himself a position of importance in this field. He has, for instance, just been devoting several months to the endlessly complex problems connected with the garment industry in New York.

Mr. Valentine's death occurred on November 14, 1916, after this paper, including the foregoing note, was in type.—EDITORS.]

really believes the words he utters. Certainly no one else does. The only basically sound point of view about production is the national point of view, and the national more and more impregnated with internationalism. All the big business men of today are doing some thinking on a planetary scale. The internationalist movement is by no means confined to trade unions and socialists.

The question that justifies nothing less than the national point of view is, even in the case of the would-be "privatest" owner, "Is my action in the public interest?" If it is, it will be likely to stand. Our point of view in considering the human factor in production will therefore be the point of view of the interest of the nation as a working industrial unit in world industrial progress.

The second question that must be answered before our point of view can be fixed is, Production for what? Despite the almost entire lack of intelligent consumption on an organized basis, it nevertheless remains true that production exists for consumption and not for its own sake. The consumer, not the producer, is steadily more and more becoming, and in the very near future will be, the dominant force in the economic development of the nation. The producer is bound to become the agent of the consumer. This is the common-sense of the situation. It is also the numerical sense of the situation. Some of our most thoughtful manufacturing producers are strangely blind to this point of view. An English woman who recently visited this country on behalf of organized labor in England, to see what standards of efficiency she could justly urge English labor to promote, was very much amused by the upside-down production-consumption situation she found in a certain concern which manufactures buttons. The concern is deserving of high praise for its efforts to regularize its sales, and thereby keep the employees steadily at work through the year. In order to do this it is necessarily seeking wider and wider markets, both geographically and through getting people more and more intensively interested in the wearing of buttons. It may well be a question as to what social and moral values are conserved by buttons on a waist where they have no structural value, where they simply serve to raise academic debate on artistic theories; or whether it is desirable to introduce the people of Borneo to

buttons. When one stops to think, he has an uneasy feeling that possibly it should be the consumer himself who should decide whether he will wear buttons or not, and not the producer, and that the legitimate field for stabilizing production is not in the field of selling *éditions de luxe* to country housewives. We certainly want to hold the world down to simple and true things and it is asking too much of the producer to expect him to do this. The whole question of styles will occur to you as another great problem in this connection. Our point of view, then, in addition to being national, looks to the consumer as being more and more the determining factor as to what shall be produced and of what quality.

With our minds thus straightened away for the course, we may proceed with perhaps a little more safety than usual to the consideration of some very concrete problems. These basic problems affecting the human factor in production may be considered under three heads: (A) the problems inherent in the work itself; (B) those inherent in the way the work is paid; (C) those inherent in the form or forms of organization which seek to govern both work and pay.

#### A. THE WORK ITSELF

1. Let us try first to state the problem involved in specialization. We are all aware that the whole tendency of the manufacturing process is strongly and inevitably in the direction of specialization. All work of all kinds—professional, business, even artistic—is being turned over more and more to specialists. As the shoe or boot divides into finer and finer parts, one person spends his whole time working on each part. His product increases and three fundamental questions arise: First, What is the effect on him as a citizen or as a potential citizen from the educational point of view? Second, What is the effect on the relation of his leisure time to his work time? Third, What is the effect on him through pay?

The manufacturer who thinks about this matter at all will, as a rule, concede that the worker should be given every encouragement to make up to himself by outside educational activities the loss of training and broader contacts which inevitably results from the present narrowing of his work interest. Some manufacturers will

even concede that there should be shorter hours for such work in order that the worker may have more time for such other interests as will keep his life from being narrowed and deadened, and on the affirmative side increase it in richness. But few will as yet concede that in addition the worker should get as much more pay for the specialized work as many workers feel they should. The employer usually asks the worker to do the more specialized work at a lower rate of pay than he had before been getting, maintaining that the worker gets his adequate share of the increased production in his greater aggregate earnings in a day. The worker, on the other hand, feels, not only that the rate should not be lowered, but that he should not remain at the old rate; that even the rate itself should be increased, since otherwise he does not get his fair share of the increased production. He holds that he needs this actual increase in rate of pay to enable him to provide adequately for life as a citizen in the longer hours away from his work. This is no question of trade-union demand that we are raising here. It is a question of straight thinking about the matter, whether done by trade unions or by individual workers. It is a question that is not academic, not theoretical; it is a practical question that is being thought out today by hundreds of manufacturers and tens of thousands of workers.

2. The second basic problem in connection with the work itself arises when we consider the length and speed of the working-day. It is in this field that the current phrases "limitation of output" and "soldiering" operate.

For both employer and employee (and also for the awakened and concretely intelligent consumer, if there be such) it is of vital importance that the piece-rate be determined in the light of the expectation of a definite quantity of production. The interests of all parties are the same (1) in doing away with soldiering and (2) in so training the conscientious slow worker as to enable him to create that minimum quantity of production in return for a minimum amount of pay which will not make the particular product of that worker an unfair charge against the employer's overhead.

It is clear that there is a certain length of the working-day within which period it is definitely ascertainable that a person can

work at a certain general rate of speed, varying, of course, from hour to hour and from day to day, and to some extent from season to season, but still running through the year at a fairly level average, without any question of physical or mental deterioration arising. Within this healthful working-day, whatever it may be, it is obvious that slovenly work, slipshod work, slow work on the part of a worker who could work faster without exceeding the limits of physical and mental health already laid down, are against the interest of the employee from the point of view of both his own skill and his own self-respect; are against the interest of the manufacturer from the point of view of his costs; are against the interests of society from the point of view of quality of the individual and the economic cost of the product.

The point at which the real opposition of interest arises between employer and employee is in the length of the working-day itself after it has been reduced to the point where it will not impair health. Here it is obvious that the problem of a shorter day through which is gained more leisure for other things must be decided by the combined efforts either under constitutional forms or through revolutionary action of a strong union on the one hand, a strong manufacturers' association on the other, and full regard to the rights and interests of the consumer. For at this point the interests of employer and employee are distinctly opposed.

It is the almost complete failure in many instances to make this distinction between the two fields which has led in the industrial world generally to disturbances over the question of soldiering, limitation of output, slack work, etc., and to the amount of nonsense that has been talked about these things. In the absence of a strong union and a strong manufacturers' association, soldiering, limitation of output, slack work, etc., may be perfectly necessary weapons of attack on the part of employees against employers.

3. Time-study in plants raises a third basic problem. I believe the union position against time-study as at present practiced is sound. Furthermore, until time-study is practiced under different conditions, I can fully understand the reasons which induce unions to seek by legislation to prohibit its use in government shops. Such legislation would bring them what they would consider relief

in those shops, and strengthen their position in opposing time-study in so-called private establishments.

In attempting to analyze the effect of time-study on an industry, I believe it important to distinguish clearly between the use of time-study for the purpose of analyzing a job and the use of time-study for the purpose of setting tasks after a job has been analyzed. I shall not here take up in any detail its second use, i.e., for task-setting. I am in extreme doubt as to whether our knowledge is anything like complete enough to give to time-study the emphasis in task-setting that is given it where it has been so used.

About its first use I believe the unions can, as a purely theoretical matter, raise no valid objections. As a practical matter, however, they may have some valid objections, because it may be practically impossible, as industry is governed today, to prevent the first use from having a very dynamic effect on the second use, even in a measure producing the second use unconsciously.

Assuming, however, for the moment, the wholly theoretical aspect of the first use, there can not only be no valid objection to it, but there is every argument in its favor. I do not feel that one can know too much about anything in the world, and time-study is an absolutely essential factor in the pursuit of complete knowledge, exactly as a clinical thermometer is an essential factor in making a medical diagnosis, or the work of a chemical laboratory in which a compound is investigated to its most elementary parts is an essential instrument of knowledge. Still speaking theoretically, it is ridiculous that an industrial investigator, like a physician or a chemist, should not have every possible facility for analyzing every industrial job and studying it from every possible angle in every possible way. To cut out time-study in connection with this investigation would be like compelling a surgeon to use a shovel where he should use a scalpel.

The difficulty arises, however, when we leave the field of theory for the field of practice. In practice, time-study is made by the employer for the benefit of the employer, and only such benefit accrues to the worker as in the judgment of the employer is necessary to produce a result beneficial to himself. This is the utmost extent to which the worker can be alleged to share. On the other

hand, as industry is at present organized, with the control of this matter in the hands of the employer, both the individual worker and all his fellows stand, both directly and indirectly, to lose in this matter, because time-study, together with the whole process of thoroughgoing analysis of jobs, tends steadily to reform the whole industrial process. Theoretically, also, this may be a completely excellent thing for society. Practically, however, it is on a certain stability in basic industrial organization, changing only from time to time and not existing as a perpetual flux, that the worker has heretofore been able to take his stand and win for himself shorter hours of labor, higher wages, sanitary working conditions, and, above all, an attitude of growing, intelligent understanding and respect for him as a man on the part of the employer—all of which things would never in the world have come to the worker from the hands of the employer. These are things that come only to those who win them. It is perfectly clear to me, therefore, that the workers cannot wisely submit or consent to any industrial method like time-study which tends so to shift the ground on which they stand from under their feet, *unless* they have an actual share with the employer in creating new ground on which they themselves will be as strong as they were on the old. This probably cannot be done, except as craft unionism either gives place to, or takes on, the administrative quality of industrial unionism. Under those conditions, and under those only, can unions be expected to co-operate in the demolition of the old ground.

It may be urged that time-study, like machinery, has come to stay, and that the union workers can no more make an effective stand against knowledge as applied to jobs than they were able to make against machinery. I agree fully that they cannot hope to make a successful stand in this case any more than they did in the other; but that is not saying that they should not make every kind of stand they can, that they ought not to do everything possible to postpone the day of its arrival, *unless*, again, they can win such a position as will enable them, not only not to oppose its arrival, but to co-operate in its arrival. For the real ground of their opposition is not in a need to block the thing itself, but rather as a means of getting their terms in regard to it. To my mind,



time-study, like the introduction of machinery, is an unquestionably good thing for society at large, if so governed that it does not work injury to any one element of society.

I hope that I have made it clear, then, that the whole thing stands in my mind as a question of control. In any industry where there is a strong union and a strong manufacturers' association and soundly worked-out collective relationships, I believe that time-study as a part of job analysis, at least, can be safely introduced, not only without detriment to the worker, but as a factor in his positive benefit. In an industry where such share in the management and such relations do not exist, I think the only logical and sensible thing for unions to do is to oppose the introduction of time-study.

Although I have not tried overrigorously to keep out the question of pay from consideration in these three topics under questions arising in connection with the work itself, it will be apparent to you, I think, that a great deal of confusion has arisen in the discussion of economic questions by failing to keep distinct certain problems arising out of the method of doing the work, irrespective of how it is paid, and certain new problems which are raised by the question of pay itself.

#### B. PAY FOR WORK

1. On questions of pay, one of the biggest problems arises out of the respective relations of employees and employers to the business risks of industry. The employer as a rule assumes the complete lack of responsibility of employees for the risks of business, and on this basis rests his claim to the total "profit." Many an employee, on the other hand, feels that he stakes a larger proportional business risk in the industry than the employer. Leaving aside all such matters as raise questions in the field of direct blame, a business which may in part shut down or become involved in competitive difficulties, because its managers are not men of enough intellectual grasp to avert them, may well cause more complete destruction to the lives of many workers than the complete failure of the business would to the owners or managers. The problem raised by these opposing points of view is as to whether a

really intelligent employer will dare continue taking the lonely responsibility he in many cases today takes, and whether the employees are not right in feeling that, if they possess any intelligence as human beings at all, they are false to their own self-respect if they do not attempt in every way in their power to educate themselves to increase their power to be fit for, and to assume a definite share in, the management of the business.

2. Another basic problem arises out of the study of the ratios of reward. In the tub of blued water, how do we determine the fair proportion in which the clear tub of water or the few drops of bluing should be paid for their respective contributions? The intelligent idea is gradually penetrating the field of business that there are certain maxima and minima of sharings, so far as either wages or management salaries are concerned. On the side of the strictly productive process, few men can claim to be worth to the business more than fifty thousand or say a hundred thousand a year, or less than nine dollars a week. I think it is fairly safe to say that an employee who is retained in any business at higher than the first amount or lower than the second is a sad comment on the efficiency of the management. We may raise here the question of the inventor who may furnish some contribution to the industry that is immeasurable in dollars; it is that very difficulty of immeasurability that takes it out of the money-reward class. Giotto, Rodin, and Edison cannot possibly be paid in money. Between these two extremes, then, lie all the questions of the ratios of reward, and no adequate analysis has been as yet applied to this problem. The very first step of such analysis is still in its infancy. Only when you have such work analyses as I suggested in what I said on the various topics under work itself will that step have been taken. When we know more than we do about the actual work that is to be done, and the time required, and the investment or education necessary to produce the right qualifications for doing it, only then do we begin to have any real line on what the ratios of money reward should be.

3. It is because of this lack of any adequate work analyses that all so-called advanced methods of pay, like task and bonus and comparative piece-rates, fail as anything like just or fair methods

of pay. They are all based on that most unscientific and messy thing in the world, "the going rate of wages." Probably the soundest method of pay in existence today, taking our great ignorance into consideration, is the straight day or weekly rate, checked against a constantly more and more intelligent job analysis; that is, a statement of the work on the basis of which the achievement of the workers is to be measured and paid for.

### C. ORGANIZATION

So far we have dealt with problems which exist in the industry apart from any particular kind of practice or theory of management. We must now consider the interrelations between these problems themselves and the different elements of management, singly and in combination. These are the fundamental questions of human organization. For practical purposes, today, human organization in the economic field exists in four main types: (1) associations based on ownership of capital; (2) associations based on the employment or management of capital; (3) associations of employees in trade unions; (4) associations (more or less actual) of all the people in government, or private consumers' organizations.

The ordinary designation of the basic economic struggle as existing between capital and labor is seen on the slightest analysis to be at once incomplete and very inaccurate. The mere fact that in many cases management and ownership of capital may exist in the same person or same organization does not do away with the fact that they are very different functions and dominate two quite distinct points of view. Perhaps the most immediately striking fact that comes out through this classification of the elements of human organization as they exist politically in the world today, whether politically in industry or politically in state or federal affairs, is the negligibility of the individual as a factor of control. I am not saying that the idea of one individual may not have a revolutionary effect on some process or some method or management or some method of organization, but this is exceptional, and where it exists it more often than not requires collective action of some kind to put the idea into operation. The day of individual bargain between employer and employee is definitely over. The

existence of the horse car on Houston Street or of many a Massachusetts or Southern mill is no proof to the contrary. The real job of today is the inventive one of devising and making practicable in use new forms of collective organization within the different units of human organization and between them. The work of the industrial statesman is to devise concrete working relationships in daily practice under constitutional forms between the four existing forms of collective action—that based on unionism, that based on public government, that based on employment of capital, and that based on ownership of capital.

#### CONCLUSIONS

All this points to certain conclusions which I shall endeavor merely summarily to state. Taking squarely our point of view of the consumer in the nation as the only one from which all the elements involving the human factors in production can be seen in right perspective, we find that the consumer himself is also in production in some cases as an employer, where his immediate interests are production first; in other cases as an employee, where his immediate interests are consumption first. We find the consumer also in production in another dual capacity, first, as a productive consumer, and, secondly, as a non-productive consumer.

Here we get a glimmering of why we have done so much of our thinking upside down. An analysis of the human factor in production from the foregoing point of view shows, not only large areas of vitally opposed interests, but an almost hopeless entanglement of administrative policies and acts, such as were illustrated in the case of buttons and styles.

The only hope for reduction of the areas of opposition and entanglement in production seems to lie in tackling as the primary problem the field of consumption itself through the process of analysis, education, and organization, and organization under the fourfold form in which we have just considered it.

The more consumption becomes the primary problem in our minds the more in the field of production the area of contest between the human factors will diminish and administration become less entangled. As now in some public-service corporations,

so then in all business this issue will tend to narrow to that between the wage-earner and the rate-payer.

We are just waking up to the fact that even today every productive business is a public service.

Where strong organizations—governmental or private, employees, management of capital, ownership of capital—are in the field watching the consumer's interest from every angle, the human factor in production is not only safeguarded but gets a constructive development otherwise lacking. The possibility of this constructive development lies in the following facts:

a) The powers of analysis and invention may under such conditions safely penetrate every operation; job analysis, including time-study, becomes safe.

b) Skill and speed in work come to have a social as well as an individualistic moral basis.

c) Just as distribution of work tends to become fairer in individual concerns, so it tends to become fairer in society at large. Dangerous and disagreeable jobs tend to command more pay for shorter hours and shorter working years.

d) It becomes socially safe for soldiering and sabotage to disappear from within the mill just as fast as it ceases to be reputable for any able person to draw either necessities or luxuries from society without full return in work.

e) Industrial education, or more specifically, production education, becomes but a part of consumption education, and education as a whole more and more affords equal opportunities for self-development of everyone.

These points which I have summarily raised throughout this paper are, I believe, the crucial points on which every thinking employer and every thinking employee is today questioning himself and his fellows.